

"Express Mail" mailing label number EL 856 153 392 US I hereby certify that this document and referenced attachments are being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR § 1.10, addressed to: Commissioner for Patents, Box Patent Application, Washington, D.C. 20231 on April 24, 2001

By: Printed: Teodoro Martinez

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of: Lal et al.

Title: HUMAN MEMBRANE RECYCLING PROTEINS

Serial No.: To Be Assigned

Filing Date: Herewith

Examiner: To Be Assigned

Group Art Unit: To Be Assigned

Official Draftsman

Commissioner for Patents
Washington, D.C. 20231

SUBMISSION OF FORMAL DRAWINGS

Sir:

Transmitted herewith are Figures 1A, 1B, 1C, 1D, 2A, 2B, 2C, 2D, 2E, 2F, 3A, and 3B, as twelve (12) sheets of formal drawings for this application. Each sheet of drawing indicates the identifying indicia suggested in 37 CFR Section 1.84(c) on the reverse side of the drawings.

Applicants believe that no fee is due with this paper. However, if the Commissioner determines that a fee is necessary, the Commissioner is hereby authorized to charge any additional fees associated with this communication or credit any overpayment to Deposit Account No. **09-0108**. **A duplicate copy of this communication is enclosed.**

If there are any questions regarding the above, the Examiner is invited to call the undersigned at 650-843-7352.

Respectfully submitted,

INCYTE GENOMICS, INC.



Richard C. Ekstrom

Reg. No. 37,027

Direct Dial Telephone: (650) 843-7352

Date: 24 April 2001

Date: 24 April 2001

By:



Michelle M. Stempien

Reg. No. 41,327

Direct Dial Telephone: (650) 843-7219

3160 Porter Drive
Palo Alto, California 94304
Phone: (650) 855-0555
Fax: (650) 845-4166

5' NGA CGC AGG CGC AAC CCA CGG CTG CTG CGG GGA TCC TTG TGG CCC TTC CGG TCG	9	18	27	36	45	54
ATG GAA CCA ATC CGT GCA CAG AGA AGC GGG GCG AAC TGA GGC GAG TGA AGT GGA	63	72	81	90	99	108
CTC TGA GGG CTA CCG CTA CCG CCA CTG CTG CGG CAG GGG CGT GGA GGG CAG AGG	117	126	135	144	153	162
GCC GCG GAG GCC GCA GTT GCA AAC ATG GCT CAG AGC AGA GAC GGC GGA AAC CCG	171	180	189	198	207	216
TTC GCC GAG CCC AGC GAG CTT GAC AAC CCC TTT CAG GAC CCA GCT GTG ATC CAG	225	234	243	252	261	270
F A E P S E L D N P F Q D P A V I Q						
CAC CGA CCC AGC CGG CAG TAT GCC ACG CTT GAC GTC TAC AAC CCT TTT GAG ACC	279	288	297	306	315	324
H R P S R Q Y A T L D V Y N P F E T						
CGG GAG CCA CCA GCC TAT GAG CCT CCA GCC CCT GCC CCA TTG CCT CCA CCC	333	342	351	360	369	378
R E P P P A Y E P P A P A P L P P						
TCA GCT CCC TCC TTG CAG CCC TCG AGA AAG CTC AGC CCC ACA GAA CCT AAG AAC	387	396	405	414	423	432
S A P S L Q P S R K L S P T E P K N						

FIGURE 1A

441	TAT GGC TCA TAC AGC ACT CAG GCC TCA GCT GCA GCC ACA GCT GAG CTG CTG	450	459	468	477	486
Y G S	Y S T Q	A S A A A T A E L				
495	AAG AAA CAG GAG GAG CTC AAC CGG AAG GCA GAG GAG TTG GAC CGA AGG GAG CGA	504	513	522	531	540
K K Q	E E L N R K A E E L D R R E R					
549	GAG CTG CAG CAT GCT GCC CTG GGG GGC ACA GCT ACT CGA CAG AAC AAT TGG CCC	558	567	576	585	594
E L Q	H A A L G G T A T R Q N N W P					
603	CCT CTA CCT TCT TTT TGT CCA GTT CAG CCC TGC TTT TTC CAG GAC ATC TCC ATG	612	621	630	639	648
P L P	S F C P V Q P C F Q D I S M					
657	GAG ATC CCC CAA GAA TTT CAG AAG ACT GTA TCC ACC ATG TAC CTC TGG ATG	666	675	684	693	702
E I P	Q E F Q K T V S T M Y L W M					
711	TGC AGC ACG CTG GCT CTT CTC CTG AAC TTC CTC GCC TGC CTG GCC TTC TGT	720	729	738	747	756
C S T	L A L L L L N F L A C L A S F C					
765	GTG GAA ACC AAC AAT GGC GCA GGC TTT GGG CTT TCT ATC CTC TGG GTC CTC CTT	774	783	792	801	810
V E T	N N G A G G F G L S I L W V L L					

FIGURE 1B

FIGURE 1C

1197 1206 1215 1224 1233 1242
 GCA GCC GCT GGG GCT GCT GAA AAT GCC TTC CGG TGA CCC CTG ACT GGG
 A A A G A A E N A F R A P

 1251 1260 1269 1278 1287 1296
 ATG CCC TGG CCC TGC TAC TTG AGG GAG CTG ACT TAG CTC CCG TCC CTA AGG TCT

 1305 1314 1323 1332 1341 1350
 CTG GGA CTT GGA GAG ACA TCA CTA ACT GAT GGC TCC TCC GTA GTG CTC CCA ATC

 1359 1368 1377 1386 1395 1404
 CTA TGG CCA TGA CTG CTG AAC CTG ACA GGC GTG TGG GGA GTT CAC TGT GAC CTA

 1413 1422 1431 1440 1449 1458
 GTC CCC CCA TCA GGC CAC ACT GCT GCC ACC TCT CAC ACG CCC CAA CCC AGC TTC

 1467 1476 1485 1494 1503 1512
 CCT CTG CTG TGC CAC GGC TGT TGC TTC GGT TAT TTA AAT AAA AAG AAA GTG GAA

 1521
 CTG GAA CTG 3'

FIGURE 1D

5' NCC GGA AGT GGA GGG TCT ACA CGA AGC GCC GCT GGG TCT GGG TGC CCG GAG GCA 54
 9 18 27 36 45
 63 GCA GCG TTC GCG GAG TTC GCC CGC TGG CCC CCG ATC ACC ATG TCG GCT TTC GAC 108
 72 81 90
 117 126 135 144 153 162
 ACC AAC CCC TTC GCG GAC CCA GTG GAT GTA AAC CCC TTC CAG GAT CCC TCT GTG
 T N P F A D P V D V N P F Q D P S V
 171 180 189 198 207 216
 ACC CAG CTG ACC AAC GCC CCG CAG GGC GTG GCG GAA TTC AAC CCC TTC TCA
 T Q L T N A P Q G G L A E F N P F S
 225 234 243 252 261 270
 GAG ACA AAT GCA GCG ACA ACA GTT CCT GTC ACC CAA CTC L P G S Q
 E T N A A T T V P V T Q Q L P G S Q
 279 288 297 306 315 324
 CCA GCG GTT CTC CAG CCA TCA GTG GAA CCA ACC CAG CCG ACC CCC CAG GCC GTG
 P A V L Q P S V E P T Q Q P T P Q A V
 333 342 351 360 369 378
 GTG TCT GCA GCC CAG GCA GGC CTG CTC CGG CAG CAG GAA GAA CTG GAC AGG AAA
 V S A A Q A G L L R Q Q Q E E L D R K

FIGURE 2A

387	GCT	GCC	GAG	CTG	GAA	CGC	396	405	414	423	432
A	A	E	L	E	R	K	E	R	E	T	A
											L
441	CAT	GTG	AGA	CAG	AAC	TGG	450	459	468	477	486
H	V	R	Q	N	N	W	P	P	S	C	P
											K
											P
495	TGC	TTC	TAT	CAG	GAT	TTC	504	513	522	531	540
C	F	Y	Q	D	F	S	T	E	I	Y	Q
											R
											I
549	AAG	ATG	CTC	TAC	TAT	CTG	558	567	576	585	594
K	M	L	Y	Y	L	W	M	L	H	T	L
											N
											L
603	CTT	GCC	TGC	CTG	GCC	TGG	612	621	630	639	648
L	A	C	L	A	W	F	S	G	N	G	V
											D
											F
657	CTC	TCC	ATC	CTG	TGG	TTT	666	675	684	693	702
L	S	I	L	L	W	F	L	I	C	L	T
											W
											Y
711	CGA	CCC	ATC	TAT	AAG	GCC	720	729	738	747	756
R	P	I	Y	K	A	F	A	R	S	F	T
											C
											W
											F

FIGURE 2B

Sequence

765	774	783	792	801	810
TTC TTT GTA TTT TTT TGT CAA ATA GGG ATC TAC ATC CAG TTG GTT GGC ATC					
F F V F F C Q I G I Y I I Q L V G I					
819	828	837	846	855	864
CCT GGC CTG GGG GAC AGC GGT TGG ATT GCA GCC CTG TCT ACA CTG GAT AAT CAT					
P G L G D S G W I A A L S T L D N H					
873	882	891	900	909	918
TCC CTG GCC ATA TCA GTC ATC ATG ATG GTG GCT GGC TTC TTC ACC CTC TGT					
S L A I S V I M M V V A G F T L C					
927	936	945	954	963	972
GCC GTG CTC TCA GTC TTC CTC CTG CAG CGG GTG CAC TCC CTC TAC CGA CGG ACA					
A V L S V F L L Q R V H S L Y R T					
981	990	999	1008	1017	1026
GGG GCC AGC TTC CAG CAG GCC CAG GAG GAG TTT TCC CAG GGC ATC TTC AGC AGC					
G A S F Q Q A Q E E F S Q G I F S S					
1035	1044	1053	1062	1071	1080
AGA ACC TTC CAC AGA GCT GCT TCA TCT GCT GCC CAA GGA GCC TTC CAG GGG AAT					
R T F H R A A S S A A Q G A F Q G N					
1089	1098	1107	1116	1125	1134
TAG TCC TCC TCT CTT CTC TCC CCC TCA GCC TTT CTC TCG CCT GCC TTC TGA GCT					

FIGURE 2C

1143	1152	1161	1170	1179	1188
GCA CTT TCC GTG GGT GCC TTA TGT GGT GGT GCC CAG CAC AGA CCT GGC					
1197	1206	1215	1224	1233	1242
AGG GTT CTT GCC GTG GCT CTT CCT CCT CCC TCA GCG ACC AGC TCT CCC TGG AAC					
1251	1260	1269	1278	1287	1296
GGG AGG GAC AGG GAA TTT TTT CCC CCT CTA TGT ACA AAA AAC AAA GCT CTC					
1305	1314	1323	1332	1341	1350
TTT CCT TCT CTG CTG ATG GTT TGG TAG GAT TCT TTT GTC TCT GGA AGC AGT GGG					
1359	1368	1377	1386	1395	1404
ACT GAA GTT CTC TTC GTC CTG TGC ACA CAC AGA CAC CCC CAC ACA GTT GGG ATC					
1413	1422	1431	1440	1449	1458
ACA GGC TGA CCT GGG CCC ATC CCA GCT GGA GCT TTC TGC CAG GGT CCT GGG CCT					
1467	1476	1485	1494	1503	1512
TGA CTC CCC CAC CCT GCA GGC CTG GCC TGA ATC TGG CTT CTT AGA CAC AGC CCA					
1521	1530	1539	1548	1557	1566
GTC CTT CCT GCC TGG GCT GGG AAT AAG CCT CTC ACA GGT TCT GGT GGA CAG ATC					
1575	1584	1593	1602	1611	1620
TGT TCC CCA GGT CAC TCC AGT GGT CTC CAG GCT TCC AGA GAA GGC TGG TTG CCT					

FIGURE 2D

1629	CAA	GCT	CTT	CTC	TGC	CTC	ATA	AAC	GGA	TCC	AGA	GAA	GGC	TGG	TTG	CCT	TAA	GCT	1674
1683	CTT	CCC	TGC	CTC	GTG	TTC	CTG	AGA	AAC	GGA	TTA	ATA	GCC	CTT	TAT	CCC	CCT	GCA	1728
1737	CCC	TCC	TGC	AGG	GGA	TGG	CAC	TTT	GAG	CCC	TCT	GGA	GCC	CTC	CCC	TTG	CTG	AGC	1782
1791	CTT	ACT	CTC	TTC	AGA	CTT	TCT	GAA	TGT	ACA	GTG	CCG	TTG	GTT	GGG	ATT	TGG	GGA	1836
1845	CTG	GAA	GGG	ACC	AAG	GAC	ACT	GAC	CCC	AAG	CTG	TCC	TGC	CTA	GCG	TCC	AGC	GTC	1890
1899	TTC	TAG	GAG	GGT	GGG	GTC	TGC	CTG	TCC	TGG	TGT	GGT	TGG	TTT	GGC	CCT	GTT	TGC	1944
1953	TGT	GAC	TAC	CCC	CCC	CCC	TCC	CCG	AAC	CGA	GGG	ACG	GCT	GCC	TTT	GTC	TCT	GCC	1998
2007	TCA	GAT	GCC	ACC	TGC	CCC	GCC	CAT	GCT	CCC	CAT	CAG	CAG	CAT	CCA	GAC	TTT	CAG	2052
2061	GAA	GGG	CAG	GAC	CAG	CCA	GTC	CAG	AAC	CGC	ATC	CCT	CAG	CAG	GGA	CTG	ATA	AGC	2106

—

2115	2124	2133	2142	2151	2160
CAT CTC TCG GAG GGC CCC CTA ATA CCC AGT GGA GTC TGG TTC ACA CCC TGG GGG					
2169	2178	2187	2196	2205	2214
GTG TGT CAC TGT GAT GGG ACA CGT AGG AGT CCA CCC TTA AAA CCA GCA CCC TGT					
2223	2232	2241	2250	2259	2268
CCC TCG AGG CTG CCG AGT GGG TGT GTG GAC TGG GGT GCC TTC CCA CAA AAC TAG					
2277	2286	2295	2304	2313	2322
CCT CCG GCT CTG GGC CCG AGA CAG CCG CAG GCC CCA GCC ACT GAA TGA TAC TGG					
2331	2340	2349	2358	2367	2376
CAG CGG CTG GGG TTT TAT GAA CTC CTT TCT GGT ATT TTT TCC CCT CTA TGT ACA					
2385	2394	2403	2412	2421	2430
AAT GTA TAT GTT ACG TCT CAA TTT TTG TGC TTA AGT AAA AAT AAC ATT TTC					

AGA C 3'

FIGURE 2F

1	M	A	Q	S	R	D	G	G	N	P	F	A	E	P	S	E	L	D	N	P	F	Q	D	P	A	V	I	Q	H	R	P	S	R	Q	Y	A	T	L	D	V	980615
1	M	S	A	F	-	-	D	T	N	P	F	A	D	P	-	V	D	V	N	P	F	Q	D	P	S	V	T	Q	L	T	N	A	P	Q	-	G	L	A	E	412453	
1	M	S	D	E	-	-	D	S	N	P	F	A	D	P	-	D	L	N	N	P	E	K	D	P	S	V	T	Q	V	T	R	N	V	P	-	P	G	L	D	E	GI 487057
41	Y	N	P	F	E	T	R	E	P	P	P	A	Y	E	P	P	A	P	L	P	P	P	S	A	P	S	L	Q	P	S	R	K	L	S	P	T	E	P	980615		
37	F	N	P	F	S	E	-	-	T	N	A	-	-	-	A	T	V	P	V	T	Q	L	P	G	S	S	-	Q	P	A	V	L	Q	P	S	V	E	P	412453		
37	Y	N	P	F	S	D	S	R	T	P	P	-	-	-	P	G	G	V	K	M	P	N	V	P	-	N	T	-	Q	P	A	I	M	K	P	T	E	H	GI 487057		
81	K	N	Y	G	S	Y	S	T	Q	A	S	A	A	A	T	A	E	L	L	K	Q	E	E	L	N	R	K	A	E	L	D	R	R	E	R	E	L	980615			
70	T	Q	P	T	-	-	P	Q	A	V	V	S	A	-	A	Q	A	G	L	L	R	Q	Q	E	E	L	D	R	K	A	A	E	L	E	R	K	E	R	E	L	412453
71	P	A	Y	T	-	-	Q	I	T	K	E	H	A	L	A	Q	A	E	L	L	K	R	Q	E	E	L	E	R	K	A	A	E	L	D	R	R	E	M	GI 487057		
121	Q	H	A	A	L	G	G	T	A	T	R	Q	N	N	W	P	P	L	P	S	F	C	P	V	Q	P	C	F	F	Q	D	I	S	M	E	I	P	Q	E	F	980615
107	Q	N	T	-	V	A	N	L	H	V	R	Q	N	N	W	P	P	L	P	S	W	C	P	V	K	P	C	F	Y	Q	D	F	S	T	E	I	P	A	D	Y	412453
109	Q	N	L	-	-	S	Q	H	G	R	K	N	N	W	P	P	L	P	S	N	F	P	V	G	P	C	F	Y	Q	D	F	S	V	D	I	P	V	E	F	GI 487057	
161	Q	K	T	V	S	T	M	Y	Y	L	W	M	C	S	T	L	A	L	L	N	F	L	A	C	L	A	S	F	C	V	E	T	N	N	G	A	G	F	G	980615	
146	Q	R	I	C	K	M	L	Y	Y	L	W	M	L	H	S	V	T	L	F	L	N	L	L	A	C	L	A	W	F	S	G	N	S	S	K	G	V	D	F	G	412453
146	Q	K	T	V	K	L	M	Y	Y	L	W	M	F	H	A	V	T	L	F	L	N	I	F	G	C	L	A	W	F	C	V	D	S	S	R	A	V	D	F	G	GI 487057

FIGURE 3A

201	L	S	I	L	W	V	L	L	F	T	P	C	S	F	V	C	W	Y	R	P	M	Y	K	A	F	R	S	D	S	S	F	N	F	F	V	F	F	I	F	980615	
186	L	S	I	L	W	F	L	I	F	T	P	C	A	F	L	C	W	Y	R	P	I	Y	K	A	F	R	S	D	N	S	F	S	F	F	V	F	F	F	F	412453	
186	L	S	I	L	W	F	L	L	F	T	P	C	S	F	V	C	W	Y	R	P	L	Y	G	A	F	R	S	D	S	S	F	R	F	F	V	F	F	Y	GI 487057		
241	F	V	Q	D	V	L	F	V	L	Q	A	I	G	I	P	G	W	G	F	S	G	W	I	S	A	L	V	-	V	P	K	G	N	T	A	V	S	V	L	M	980615
226	F	C	Q	I	G	I	Y	I	I	Q	L	V	G	I	P	G	L	G	D	S	G	W	I	A	A	L	S	T	L	D	N	H	S	L	A	I	S	V	I	M	412453
226	I	C	Q	F	A	V	H	V	L	Q	A	A	G	F	H	N	W	G	N	C	G	W	I	S	L	T	G	L	N	K	N	-	I	P	V	G	I	M	M	GI 487057	
280	L	L	V	A	L	L	F	T	G	I	A	V	L	G	I	V	M	L	K	R	I	H	S	L	Y	R	R	T	G	A	S	F	Q	K	A	Q	Q	E	F	A	980615
266	M	V	V	A	G	F	T	L	C	A	V	L	S	V	F	L	L	Q	R	V	H	S	L	Y	R	R	T	G	A	S	F	Q	Q	A	Q	E	E	F	S	412453	
265	I	I	I	A	A	L	F	T	A	S	A	V	I	S	L	V	M	F	K	K	V	H	G	L	Y	R	T	T	G	A	S	F	E	K	A	Q	Q	E	F	A	GI 487057
320	A	G	V	F	S	N	P	A	V	R	T	A	A	A	N	A	A	A	-	-	-	-	G	A	A	E	N	A	F	R	A	P								980615	
306	Q	G	I	F	S	S	R	T	F	H	R	A	A	S	-	-	-	-	-	-	-	S	A	A	Q	G	A	F	Q	G	N									412453	
305	T	G	V	M	S	N	K	T	V	Q	T	A	A	A	N	A	A	A	S	T	A	A	T	S	A	A	Q	N	A	F	K	G	N	Q	M					GI 487057	

FIGURE 3B